SUMMARY

The wide differences in the level of per capita expenditures among cities, both in terms of totals and of selected functional categories, suggest that the factors responsible for such differences are neither few in number nor readily identifiable. Some of this variance appears to be ascribable to circumstances peculiar to the states in which cities are located. These circumstances may be political and historical in nature. Moreover, their influence tends to transcend state lines for similar, though less pronounced, differences are found as well among cities grouped by major geographic regions. Elimination of factors peculiarly associated with state of location regularly results in far higher multiple correlation coefficients than those obtained when state lines are disregarded in the analysis for all 462 cities studied.

A second major factor affecting the level of city expenditures is the classification of the city with respect to whether it is the central city of a standard metropolitan area, an industrial or residential suburb within an area, an independent city, or a major resort center. This system of classification, further broken down to distinguish between high- and low-income residential suburbs and core cities of large and smaller metropolitan areas, produces substantial and very significant differences in mean per capita expenditures.

In the multiple regression analysis, designed to measure statistical relationships between city per capita expenditures and the quantitatively measurable independent variables taken into account, some of the foregoing factors play the role of disturbances which, to a greater or lesser extent, may have distorting influences upon the results obtained. However, the evidence indicates that these influences do not challenge seriously the general nature of the conclusions. Rather, they appear to modify the results in a manner that suggests that in their absence statistical relations obtained would further support these conclusions.

One major inference to be drawn from the regression analyses is that there is little, if any, demonstrable positive relationship between the population size of cities and their levels of expenditure per capita when other independent variables are taken into account and the sample studied is a large one. Assertions to the contrary have typically been based upon simple correlation analysis or observations of data for broad groups of cities. Careful study of such groups discloses the fact, however, that variations in the mean levels of per capita expenditure between groups is not significantly greater than that within groups. These general observations respecting the absence of association between population and expenditures are applicable to all functional categories except police protection.

The principal source of doubt as to their validity lies in the results obtained in our regression analysis applied to the cities of Massachusetts and Ohio. These results, indicating association between population size and per capita expenditures, are spurious, however, given the comparatively small samples and the nature of the population size distribution within the two states.

Although population size as such is of little consequence, two other variables derived from population data are associated to a substantial extent with per capita expenditures. These are density of population and, for the cities for which it has been possible to apply it, the ratio of the city's population to that of the standard metropolitan area in which it is located. There is a clearly observable positive relationship between population density and expenditures with respect to all functional categories examined except highways, for which the relationship is strongly and consistently negative, and recreation. On the other hand, it appears that the smaller the proportion of the metropolitan area's population that is accounted for by the central city, the greater are its per capita outlays. The statistical results obtained tend to substantiate a strong claim to causality for both sets of relationships.

The analyses appear also to confirm the hypothesis that city expenditure levels are positively associated with the magnitude of median family incomes. Per capita expenditures under all functional categories tend to increase as incomes rise, but the relationship is particularly well marked in the cases of operating outlays for recreation and sanitation.

The ratio of employment in manufacturing, trade, and services to population does not, in general, contribute materially to differences in per capita expenditures, except when, based on the size of this variable, "industrial" suburbs are compared with residential suburbs. This may be due, in part, to the fact that it takes into account widely varying proportions of total employment within cities. A more inclusive variable of this nature might prove far more useful.

Intergovernmental revenue per capita is highly consistent in its positive association with per capita city expenditures. Its importance seems to lie principally in the fact that it serves as a partial measure of the distribution of functional responsibilities between the cities on the one hand and the state and its other local subdivisions on the other. In addition, it represents a partial indication of the availability of funds with which expenditures may be financed. In view of the fact that, in the case of grants-in-aid that involve matching by the state of city expenditures, the level of the latter may be said to determine rather than be determined by state aid, the extent to which this variable is truly "independent" is uncertain. Nevertheless, in analyses involving cities located in as many as 47 states, if not for those

within any one state, the hypothesis suggesting a causative relationship retains much appeal.

For the forty large-city areas the ratio of the number of pupils to the city's population proved to be a significant factor in explaining variation in per capita expenditures for education. For this same group of cities local welfare expenditures were found to vary inversely with state direct expenditures per capita for welfare.

The influence of all independent variables combined varies considerably from one category of expenditure to another. It is usually greatest for those categories with respect to which the coefficients of variation are smallest; that is, where there is least to "explain." Thus, the multiple correlation coefficients are generally higher, for example, for police protection than for recreation. The independent variables tend to explain the largest proportions of variations in per capita expenditures when the regression analyses deal with groups of cities for which the disturbing influence of differences among states in the distribution among local governments of functional responsibilities is minimized. The multiple correlation coefficients approach or exceed 0.8 only for cities within single states and in the case of the forty large-city areas for which the expenditures of the cities and their overlying units of local government are combined.

It is worth reiterating, finally, that there is no facile means of explaining the tremendous range of differences in the levels of city expenditures. Even within states, and considering the probable contributions of differences in the nature of cities and of the ratio of city to metropolitan area population, the proportion of variance that remains unexplained, ranging from 20 to more than 90 per cent, is certainly large enough to challenge further research. The current survey being conducted by the Bureau of the Census, to be published as part of the 1957 Census of Governments, should make available additional interesting and useful data. For example, the Bureau's study of assessment ratios and of assessed values classed by kind of property should permit the use of comparable property tax base data for the nation as a whole. Scott and Feder's study strongly suggests that such data may well help substantially to explain the variance in city expenditures. In addition, both Hawley's inquiry and the present one testify to the importance of the role of the population, its size and other characteristics, that lives beyond the city's limits but within its metropolitan or commuting area. Finally, it should be fruitful to examine in further research such features of a city's population as its political beliefs, ethnic and religious background, mobility, and so forth. Perhaps the most promising rewards may lie in a thorough field investigation of cities whose per capita expenditures are most distinctly higher or lower than would be expected.